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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/966,221

09/28/2001

Thomas S. Laubner

17655

5888

7590

10/06/2004

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EXAMINER

WIMER, MICHAEL C

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/966,221

**Applicant(s)**

LAUBNER ET AL.

**Examiner**

Michael C. Wimer

**Art Unit**

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-15 and 17-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-15 and 18-36 is/are rejected.
- 7) ☒ Claim(s) 6 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/9/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3-5,7,8,14,15,18 and 23-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Openlander (6157348) in view of Murphy et al (4051477).

Regarding Claims 1,3-5,7,8,14,15,18 and 23-36, Openlander describes a microstrip antenna used in a mobile vehicle, in column 1, lines 18-29, where the antenna may be made from p.c. board materials and techniques with an upper patch/disk mounted above a ground plane with the p.c. board therebetween, and the lower ground plane is mounted to metal body of the vehicle. Two ground planes are employed here in such an arrangement. Figures 3 and 4 of Openlander show the patch 44 disposed over the ground plane 42 via dielectric posts. It would have been obvious to the skilled artisan to employ a p.c. board to support the patch and ground plane as taught by Openlander in column 1. The embodiment in Figures 3 and 4 is to be mounted upon a vehicle body which is the first conductive ground plane claimed. The second ground plane is that 42 which raises the patch 44. A feed means 56 is shown. Murphy et al are cited as teaching that it is known to decrease the radiation angle of a microstrip antenna by raising it above a second ground plane (see Figures 5-7 of Murphy et al). The

lens 60 in Openlander lowers the radiation beam below 45 degrees as claimed.

It would have been obvious to employ the techniques of Murphy et al in the Openlander et al antenna, particularly since there are two ground planes employed therein.

The lens 60-64 is formed as a dome. Specific gain and angles in the pattern are obvious to vary to the skilled artisan because they depend upon materials used for the lens and its thickness.

3. Claims 9-13,19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Openlander in view of Murphy et al as applied to claims above, and further in view of Nichols et al.

Adding a monopole to a microstrip antenna is shown to be obvious by Nichols et al in Fig. 3, where a dielectric 68 is disposed around the monopole 66. It would have been obvious to add a monopole to the Openlander/Murphy et al antenna for adding an additional frequency band in the system.

#### ***Allowable Subject Matter***

4. Claims 6 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

5. Applicant's arguments filed 6/25/2004 have been fully considered but they are not persuasive. Specifically, there is evidence of obviousness between the references and it is clearly set forth in the rejection above. Raising the ground plane lowers the

angle of radiation. Murphy teaches such an objective and Openlander's antenna also has this objective. A prima facie case of obviousness has been set forth. The rejections stand.

### ***Conclusion***


6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer  
Primary Examiner  
Art Unit 2828

MCW  
9/24/2004